REMARKS

Claims 1-7 are pending in this application, with claim 1 being in independent form. Claim 1 has been amended to define still more clearly what Applicants regard as their invention.

At paragraph 2 of the Office Action, claim 1 was objected to for the noted informalities. Claim 1 has been corrected accordingly and, therefore, withdrawal of this objection is respectfully requested.

At paragraphs 3 and 4 of the Office Action the Examiner objected to the specification and abstract for the informalities pointed out by the Examiner. Applicants have corrected these informalities in accordance with the suggestions kindly made by the Examiner, except Applicants note the following. The Examiner recommended changing the term "compact" to "near" or "close" (page 6, line 14). However, Applicants respectfully submit that the Examiner may have misunderstood the meaning of this term. From the recitation "not compact, ... one of the cells is surrounded by the cells of other clusters" (lines 16-17 of page 6) it should be understood that the term "compact" means no cell is surrounded by the cells of other clusters, but does not mean "near" or "close." Accordingly, Applicants believe the informalities noted at paragraphs 3 and 4 of the Office Action have been corrected, and, therefore, withdrawal of this objection is respectfully requested. Applicants submit that no new matter has been added to the specification by the amendments presented herein.

Claim 1 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement, for the reasons provided at paragraph 5 of the Office Action. Along with the amendments to claim 1, Applicants provide the following explanation to the Examiner.

1) Formula 1 of claim 1 is the target cost function.

2) The solution to the target cost function is not an essential technical feature of the claimed invention, and a person having ordinary skill in the art of linear programming would know how to solve the target cost function as shown in formula 1.

3) The following recitations have been added to claim 1 to clarify the relationship between formulae 1 and 2:

TD_i is the amount of traffic or load of cell i;

$sc_k = \sum_i TD_i x_{ik} - SC_k$;

4) ~~Formulae~~ 5 and 6 are both restrictions of formula 1 and Applicants note that the variables in formulae 5 and 6 have all been described in claim 1.

For all the foregoing reasons, withdrawal of the rejection under Section 112, first paragraph, is respectfully requested.

As to the prior art rejections, Applicants submit that claim 1 is patentable over Okajima (U.S. Patent Application Publication No. US 2001/0018346) in view of Quinquis (U.S. Patent 6,243,363) for at least the following reasons.

Claim 1 is directed to a method for implementing macro-diversity management by using an intelligent Virtual Base Station (VBS), wherein each VBS area includes a plurality of cell clusters and each VBS area corresponds to one mobile server, and the mobile server contains load information and handover information of all cells included in the VBS area.

The method includes selecting a base station in a cell cluster, which has a highest load and a highest normalized handover rate, as a parent base station, and performing by the selected parent base station macro-diversity on signals from a same user equipment received by all cells of the cell cluster.

One notable feature recited in claim 1 is "wherein selection of the cell cluster is made based on [a] minimized target cost function."

Thus, in amended claim 1, the selection of a cell cluster is made based on a minimized target cost function, i.e., the selection of proper cells i and j to minimize the target cost function as shown in formula 1 under the restrictions as shown in formulae 2-6. By using formulae 1-6 to construct a hybrid cost function to select the cell cluster, inter-cluster handover probability and inter-VBS handover probability in which the cells are inter-connected and compact are minimized and thus to balance inter-cluster load (see, e.g., page 6, 4th paragraph of the present specification). Nothing in Okajima or Quinquis, whether considered either separately or in any permissible combination (if any) would teach or suggest the above feature.

Accordingly, claim 1 is seen to be patentable over the cited references.

The other claims in this application are each dependent from independent claim 1 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Respectfully submitted,

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